**TESTIMONY FOR THE
SUBCOMMITTEE ON THE FEDERAL WORKFORCE AND AGENCY ORGANIZATION**

Mr. Chairman, Ranking Member Davis and distinguished members of the Subcommittee. Thank you for allowing MEDecision, Inc., to submit a formal statement for the record on the extremely important topic of using payer-based health record technology to improve healthcare. I am David St.Clair, Founder and CEO of MEDecision, Inc., the recognized market leader in collaborative care management solutions for the health insurance industry. Our clinical systems are used nationwide to help coordinate care for about one in every six insured people in the US, including millions of federal employees and their families. Since 1988, MEDecision has been leading the effort to create clinical information technology to improve the quality and affordability of healthcare. I also represent two other organizations. I am here on behalf of the Health Information Management Systems Society (HiMSS), for which I serve as an Advisor on their Board of Directors. HiMSS, as the Subcommittee is well aware, is the largest trade association for health information technology. And I'm here as the spokesman for the CollaboraCare Consortium, an alliance of 16 innovators in the emerging regional health information technology market.

We commend this Subcommittee's commitment to improving health care for Federal Employees and their families and to driving healthcare reform through the development, standardization and interoperability of health information technology.

The growth in healthcare costs, which far exceeds the growth of the economy in general, drives demand for additional technical solutions and an interest in clinical best practices. There is also an interest in identifying the highest of the high risk patients - the 5 or 10% of patients that is responsible for the majority of healthcare costs in our country. On average, these patients in a recent sample have 11 different medical conditions (including 3 chronic conditions), have taken 13 different classes of medications and have seen 9 different providers in the past year. This population, more than any other, is in need of assistance in bridging the information gaps – chasms – evident in the medical community.

We believe that electronic health records will change the way healthcare is delivered in this country. Using technology to facilitate collaboration among healthcare stakeholders will result in the right information reaching the right people at the right time – which can positively impact patient outcomes and make healthcare more affordable. Recognizing that we need not wait until physicians and other providers fully embrace the use of electronic medical records systems in their practices, forward-thinking payers predict the impact that sharing their information can have on healthcare outcomes and embrace this sharing as the proper course of action to take. For these reasons, MEDecision, HiMSS and the CollaboraCare Consortium enthusiastically endorse the Federal Family Health Information Technology Act of 2006, recently introduced by Congressman Jon C. Porter (R-NV).

Payer-based health record: the first step toward the electronic health record

For 18 years, the central focus of MEDecision has been to improve the relationship among patients, payers and providers. While all three groups are both suppliers and users of patient data, payers are currently the best source of information. Percentage-

wise, nearly 100% of the insured population has the opportunity to have a payer-based health record because they've had claims paid in an automated system – compared with 15% of that population potentially having even a partial electronic medical record with a provider, and less than 1% with an electronic personal health record today.

To improve healthcare in this country and change the way patient information gets used by physicians at the point of care, the place to start is not just with personal health records or with providers' electronic medical records - both are relatively "thin" sources of data. Rather, the logical starting point is the payer-based health record because it mines the richest source of data available for almost everyone with health insurance of any sort. And the number of records available matters immensely, because in order to get physicians or hospitals to modify their workflow, a new capability must apply to a significant portion of their patient population. We believe that mobilizing this payer-based data as quickly as possible will greatly impact the quality and affordability of healthcare in the United States today.

MEDecision, HiMSS and the CollaboraCare Consortium support the legislation's proposal to use the Federal Employees Health Benefits Program (FEHBP) as a model for providing all 8.5 million beneficiaries with an electronic health record by the end of the decade, starting with payer-based health records, then adding personal health records, and then providing resources via grants for providers to implement electronic medical records systems.

The process outlined in the bill is the same process already being followed by several forward-thinking payers. In all instances, the value of these patient clinical summaries was immediately recognized by both the health plans and the providers who received patient data at the point of care. The physicians using patient clinical summaries strongly believe that this payer-based information is improving the quality and safety of the care they are delivering. The payers, in turn, also believe that the improvement in the quality of care will ultimately reduce the overall cost of care for their customer base, making the very modest investment in the payer-based health record technology a good one.

Introduction of the payer-based health record

In 2004, MEDecision introduced the payer-based health record (PBHR) as the best source of information in digital form on patients and their overall clinical histories available at that time. The PBHR represented the sum of all available information – including years of paid claims data, pharmacy data and care management data that was generated by physicians and other providers in all kinds of settings, including the vast majority that had no electronic medical record systems of their own.

While we readily acknowledge that the payer-based health record is not a complete electronic health record, it is the logical starting point because payers have the only large quantities of data that already exist in electronic form. By partnering with our clients, MEDecision has learned that payer data is most effective when it has been clinically validated and cleaned. Using patented clinical rules technology, MEDecision now refines and validates much of the data and pushes the PBHR to the next level of utility. The benefits of a clinically enhanced PBHR, which includes more accurate information, ultimately leads, early adopters believe, to better decisions and better outcomes. The clinically enhanced PBHR paves the way to the full electronic health

record and to the next generation of healthcare in this country. (See attached "Defining the Roadmap to the Electronic Health Record" for further details.)

MEDecision's experience in Texas, Delaware and Illinois provides "proof of concept" for the technology and the approach contained in the Federal Family Health Information Technology Act of 2006.

Creating 830,000 payer-based patient records in four days

Today, MEDecision's customer base of 60 health insurers includes 21 Blue Cross and Blue Shield plans nationwide, two of which are leading the movement toward creating and sharing payer-based health records. Last summer, MEDecision teamed up with Blue Cross Blue Shield of Texas (a subsidiary of the Health Care Services Corporation) to create payer-based health records for their 830,000 members who were potential evacuees from an approaching Hurricane Rita. This effort required two days' worth of work on the part of the payer's technical staff who gathered claims data for members who lived in the zip codes in the Texas coastal areas. They turned the data over to MEDecision and in two more days we organized and processed the data using patented clinical validation rules to create clinically enhanced payer-based health records for the affected members. When Hurricane Rita stormed ashore, Blue Cross Blue Shield of Texas members had their clinical histories available through their insurer for use by their doctors should the need arise far from home.

Blue Cross Blue Shield of Texas initiated this project simply because they recognized it was the right thing to do to. To ensure the best health outcomes for their members, particularly having watched the aftermath of Hurricane Katrina, they chose to act swiftly and decisively. I submit to you that the passage of the Federal Family Health Information Technology Act of 2006 is in the same category – it's the right thing to do.

Implementing the PBHR at a Level 1 trauma center

In another case, MEDecision joined forces with a major payer in Delaware and the state's largest provider, Christiana Care Health System – both of whom serve approximately 50% of the population – to create and share payer-based health records.

Dr. Edward F. Ewen, Jr., Director of Clinical Informatics at Christiana Care Health System, was instrumental on the provider side for managing the relationship with the health plan, arranging for the receipt of the payer-based information, setting up the processes within the hospital, and putting all this into production. We agreed to start using the PBHR in the hospital's Emergency Department, a Level 1 trauma center, which is appropriately one of the highest cost care delivery settings in any hospital. It is in this environment where the patients are at the highest risk, and also where the doctors typically know the least about their patients because they often arrive unconscious and alone.

For the first time in the nation's history, a regionally dominant health plan is synthesizing data to create a composite patient clinical summary and to export it in real-time for a patient arriving in the Emergency Room. The patients benefit because the clinical staff now knows what conditions they've been treated for, the relative severity of those conditions, what medications the insurer has paid for and the date of their last refills,

who the patients' doctors are, what services they'd delivered and what tests they ran. The clinicians benefit because they can focus on treating their patients for presenting problems more safely and efficiently. And the insurers, employers and society benefit because we end up with healthier citizens and lower healthcare costs.

Early results, generally anecdotal (pending a full study), show specific areas of marked benefit: improvements in medication histories, evidence of medication/condition contraindications, and a reduction in hospital admission rates.

"Substantially more" medication information

According to preliminary findings at Christiana Care, emergency physicians now have "substantially" more medication information about a patient 48% of the time. More complete drug information helps prevent interactions and helps highlight possible contraindications. For example, in an initial review conducted at Christiana Care, the patient clinical summaries disclosed that out of a total of 59 high-acuity ER admissions in one month, three patients with heart conditions had filled prescriptions for Viagra but failed to tell the hospital staff that potentially life-saving information. On the other hand, about a quarter of the time, the doctors managed to get information about drugs the patient had taken that the summaries were missing; almost all were aspirin.

Anticipated cost savings

Christiana Care Health System, their associated payer and MEDecision have retained an external research organization to do a formal ROI analysis on this program and that study is underway. However, early results of the program suggest that electronic transmission of the patient clinical summary to emergency room physicians lowers ER patient treatment costs. Anecdotal experience indicates that approximately 7.5% of the sample high-acuity patients seen in the ER would not have been admitted if attending physicians had had immediate access to the data in the patient clinical summary. At a typical ER admission cost of approximately $8,000 per patient, millions of dollars could be saved annually as a result just from avoided admissions alone. The savings attributable to reduced medication errors and avoided duplicative testing costs can only add to the opportunity for ER savings across the country.

Rolling out electronic health records to 10 million BCBS members

One of our largest customers, Health Care Services Corporation (HCSC), is building payer-based health records and implementing personal health record systems for their 10 million members, including about 500,000 FEHBP beneficiaries. In four weeks, we created 3.7 million electronic health records for members covered by the HSCS subsidiary, Blue Cross Blue Shield of Illinois. In the coming months, these records will be delivered to clinicians who are treating those individuals, on demand and in secure transactions across the country. The clinical summaries will also be made available to the members themselves as part of the HCSC-branded member portal, integrated into a fully functional personal health manager. But, just as importantly, those same records will be made available to the members themselves in pre-populated, secure personal health record systems supported by several of MEDecision's partners in the CollaboraCare Consortium. HCSC believes that they can best serve their members, their corporate and governmental customers, and the healthcare system by helping individuals "engage" in their own healthcare, regardless of what secure and private

personal health record system that member chooses to use. That, Mr. Chairman, is leadership.

It is interesting to note that this one payer covers 3.3% of the U.S. population. If you look at the last 25 years of electronic medical record system adoption in this country by physicians, hospitals and others, the total penetration for electronic medical records is probably 15% or less of the US population. So in effect, one payer can add over 20% to the total population with electronic health records available in less than one year.

The real opportunity now is to mobilize the data that the payers have as quickly as possible, because we can then use that information to improve the quality and affordability of care – while we're still trying to figure out exactly who pays for electronic medical records systems, which are the best ones, and how to make them interoperable. We can dramatically increase the use of clinical data in treating patients in a relatively short period of time, at a relatively low cost. The only technology required in a physician's office to get started is a computer with an Internet connection and a printer, and the total cost for the creation of the payer-based health records, the personal health record system and the delivery to the point of care is less than $1 per person per month, a fraction of a percent of the insurance premium for the individual's health coverage.

The necessary technology is available today

In conclusion, MEDecision, HiMSS and the CollaboraCare Consortium strongly believe that there is an opportunity to improve the quality and affordability of healthcare in this country through the use of electronic health records. The enabling technology is available today. We salute those forward-thinking payers who are embracing opportunities for change rather than shrinking from it.

The Federal Family Health Information Technology Act of 2006 can mobilize the data in dozens of health plans because, even though the proposed mandate is only for the 3% of the population who are FEHBP members, the technology can be easily extended once it is in place for one group. The bill, once passed by Congress, will be a step in the right direction for demonstrating the leadership that payers can take to affect health outcomes. We salute the federal government's willingness to use its own resources to lead the way.

Mr. Chairman and Ranking Member Davis, the commitment of this subcommittee will help yield the greatest benefit of all: better health for our citizens. We at MEDecision, HiMSS and the CollaboraCare Consortium are proud to be part of that process. We look forward to working with you, the Subcommittee, Congress, OPM and ONCHIT to develop a healthier future for all Americans.

Thank you again, Mr. Chairman and Ranking Member Davis for the opportunity to appear before this Subcommittee. I am prepared to answer any questions you may have.

Defining the Roadmap to the Electronic Health Record

Abstract

The electronic health record (EHR) – a composite of all available information from patients, payers and providers – has long been cited by both the healthcare industry and the federal government as essential for decreasing medical errors, improving quality of care and reducing costs. The first step toward a usable EHR was the introduction of the payer-based health record (PBHR), which was introduced in 2004. The next step is the enhanced PBHR, which offers a quantum improvement in clinical and economic value. This white paper examines the differences between the PBHR and the enhanced PBHR, and defines the subsequent, necessary steps that must be taken in order to achieve a broader EHR.

I. Overview

When considering the need for an electronic health record, the healthcare market historically defined the EHR in terms of information that was available inside doctors' offices, hospitals and laboratory facilities. Sometimes the industry would discuss data that the patient had, but for the most part the EHR was considered to be based on provider-side data sometimes found in an electronic medical record system, or EMR.

At MEDecision, we examined the situation and determined that if you look at the overall healthcare system, there are three major constituencies – patients, payers and providers – and each has a set of information that becomes important when creating an overall electronic health record for an individual.

In order for the next generation of healthcare to come about, the industry needs to merge all available data about a patient and communicate a consistent view among the patient, payer and provider. At MEDecision, we believe one important step towards this goal is a new clinical validation step to produce, initially, an enhanced PBHR built on the structure of the PBHR we introduced to the market in 2004. Likewise, this same clinical validation step will be critical to the success of the future, more comprehensive EHR, a step needed to produce a credible and accurate summary of a patient's medical history from disparate (and frequently inaccurate) data sources.

II. Components of the Electronic Health Record

Provider Data: Electronic Medical Record
One source of patient data resides with physicians and hospitals that have electronic medical record systems. This data includes diagnoses, problem lists, service information, physician notes, diagnostic imaging data, and a growing set of test results.

While providers may have extensive information about the patients from when the patient first saw them as an individual physician, or when the patient was admitted to their particular hospital, they have little or no information about the services and care being delivered to that patient in other settings or by other practitioners. This results in silos of reasonably rich information on individual patients, but not a comprehensive picture because providers have no ability to pull all the components together into one composite picture.

But the major difficulty with using the electronic medical record as a primary data source is its scarcity: it is estimated that less than 17% of physicians in this country ever use an EMR. For a significant number of them, the only time they ever use an EMR system is when they go into hospital that has admitted one of their patients. Therefore, using EMRs as the foundation for a nationwide electronic health record system will be difficult for years to come since EMRs contain clinical data for only a very small percentage of the overall population.

Patient Data: Personal Health Record
Another source of patient data is the patient population itself. Some patients maintain personal health records that contain information that neither the payers nor the providers have – such as family history, over-the-counter medications, allergy information, basic life-style data, and so on.

However, until recently, a personal health record must be manually filled out and maintained by a patient (or a family member or care giver), which is one of the reasons that PHRs are so rarely used. The fact that the patient has to update the record after every doctor visit, new medication or test result is an almost untenable proposition, especially for patients who are chronically ill. As a result, only an estimated 1% of the population maintains a personal health record. Also, given the individual's lack of medical knowledge and their interpretation of clinical information given to them verbally by a busy physician, the quality of clinical data in a PHR is suspect.

Payer Data: Payer-based Health Record
The third source of patient data resides within the walls of "payers," which include health insurance companies, managed care organizations, self-insured corporations, and government organizations such as Medicaid agencies and CMS. Payer data includes such information as pharmacy claims, medical and surgical claims, behavioral health claims, heath risk assessments, and case, disease and utilization management data.

Payer organizations are not only sources of data but also important users of data. This is because the care managers – the clinical staff within the payer organization – have a very important role in helping to coordinate and manage the care of people with chronic diseases and severe illnesses.

While all three groups are both suppliers and users of data, payers are currently the best source of patient data. Percentage-wise, nearly 100% of the insured population has the opportunity to have a PBHR because they've had claims paid in an automated system – compared with 15% of that population potentially having even a partial EMR, and only 1% with a personal health record.

III. PBHR: the place to start

If you are trying to improve healthcare in this country and change the way patient information gets used by physicians at the point of care, you don't start with personal health records or with EMRs, which are relatively "thin" sources of data. You start with the PBHR, because it is the richest source of data available for almost everyone. And the number of records available matters immensely, because, in order to get physicians or hospitals to modify their workflow, a new capability must apply to a significant portion of their patient population.

MEDecision introduced the payer-based health record (PBHR) in 2004 as the best source of information in digital form on patients and their clinical history available at the time. The PBHR represented the sum of all available information – including years of paid claims data, pharmacy data and care management data that was generated by physicians and other providers in all kinds of settings, including all of those that had no EMR systems of their own.

Raw Data
The PBHR begins with raw claims data, which simply lists all the patient information without an attempt to organize or validate it. Raw data can exist at the patient, payer and provider levels, but for the purposes of a PBHR, the first step is to collect all the payer data. A patient with even a moderate history of illness can have hundreds of paid claims over the past few years, so the volume of raw data can be immense.

Summarized data
Summarized data can also occur at all three levels, resulting in a summarized EMR, PHR, or PBHR. The standard PBHR summarizes some of the raw data, but because there are no clinical rules, the result is a very splintered set of reports – where sometimes there is too much information and other times too little, particularly for acutely ill patients.

Moving from raw data to summarized data helps organize the information, but on a pure data processing level and not a clinical processing level. While this data can be put onto a Web portal, it is difficult for a doctor to readily interpret and trust. As a result, the information does not yet have sufficient value. It is a good start, but real value comes from the enhanced PBHR.

IV. Defining the Enhanced PBHR

Believing that raw claims data is not necessarily the most useful data, MEDecision has taken the next step and created an enhanced PBHR which involves applying clinical rules to cross-validate information in those data records. Conceptually, this same process can also be used to provide an enhanced EMR and PHR. Ultimately what we care about is the enhanced EHR, which is the clinically validated sum of the three principal data sources.

Enhancing a data record is taking steps to refine the data in such a way that makes it more intelligible. MEDecision has filed a patent on cross-validation technology, which is what enables the data to be clinically cleaned and

summarized. At the simplest level, this technology performs tasks such as grouping diagnosis codes into condition codes to eliminate often inaccurate specificity when specificity is unnecessary. For example, it is much more useful if we can tell the next family practitioner that the patient had a heart attack three years ago, rather than simply presenting them with 7 potentially different diagnosis codes related to that patient's heart disease.

Two primary challenges in validating payer data are (1) erroneous preliminary diagnoses that are later corrected and (2) rule-out codes, where there is information about a service (e.g., a test or an admission) that was performed in order to rule out a particular condition. The challenge is to make sure that a rule-out doesn't end up as a condition, leading a treating physician to believe that their patient actually had a heart attack instead of being admitted to simply rule one out, as is often the case.

Clinical Intelligence

Grouping data into conditions requires real clinical knowledge. Clinical intelligence considers such questions as: How do you want to group these codes? How do you figure out from other data in the composite record which grouped condition is the most appropriate? Do you care about some variation in the condition or not?

Rule-out codes and incorrect diagnoses require more processing. Here, you need to look at the entirety of the available data as well as subsequent events. For instance, if you have four doctors who over a three year period say this patient is bulimic, chances are good that it is true. However, if you have one doctor who says it, and it shows up on one claim, you have to question it. Even then, you need to examine what services were delivered to the patient over the next six to twelve months, see what medication were they on and consider any other evidence to determine if this is truly a condition that was treated, or could potentially be a rule-out or misdiagnosis.

A sad case in point: a 2 ½ year old girl started exhibiting some very strange symptoms and was originally diagnosed as psychotic. A year later, she was taken to another specialist, diagnosed with a very rare neurological disorder, given new medication, but nothing was resolved. Another year later, another specialist ran a blood test and discovered that the child had Lyme disease. The girl was treated and the complex symptoms disappeared. The claims records (and any associated EMR data, of course) show that this child was psychotic, that she had a rare neurological disorder, and that she was treated for Lyme disease. By using clinical intelligence, we will be able to conclude that the psychosis and neurological disorder were, in fact, likely misdiagnosed Lyme disease, and that they can be ignored in all further processing and risk assessment.

Clinical Rules vs. Validation Rules

Clinical rules underlie both enhanced data and clinical intelligence, but their intent is different. Validation rules are meant to take complicated sets of data from an increasing number of sources that have duplications, mistakes and holes – and try to weave the information into one coherent, composite record. At MEDecision, we use the term *data weaving* for this process: taking all the

raw data that can be rolled up into summarized records, but then make it valuable. The validation process is part of that weaving function – eliminating duplicates, eliminating errors and trying to sort out the truth about the patient's clinical history.

Clinical intelligence, on the other hand, says: once you have the best record we know how to create, what are the implications of that record? For instance, if a patient has four conditions, and we look at the medications they are taking and the services they are receiving are there gaps in care? We compare this information with clinical best practice, which might suggest that the patient be on a different medication, or that they should be receiving a particular service, such as having their blood tests with increased frequency. So clinical intelligence says, once I have the best record - the enhanced PBHR or EHR - what can I say about it? The result is enhanced and actionable information rather than simply a collection of data.

In addition, clinical intelligence also considers the legal implications about what information can be shown to a doctor or to a patient on a state-by-state basis so as to insure patient privacy as dictated by law. The Patient Clinical Summary (PCS), which is a branded MEDecision product, is the sum of the enhanced PBHR (and, soon, EHR) with clinical intelligence applied. Today the PCS is almost entirely based on the enhanced PBHR, since the other data sources do not exist in sufficient quantity yet. However, as the other data sources come on line willing to exchange data, that data will be added to the enhanced PBHR to create the enhanced EHR, which in turn will be the foundation for the ever-improving versions of the PCS. MEDecision has established the CollaboraCare Consortium to allow us to gain access to EMR and PHR data from our partners and, in turn, distribute EHR data back to their respective users.

Formatting

Information formatting is an important consideration and represents challenges in a couple of ways. The PCS can be formatted into a PCS report, which is a document that can be printed out and handed to the physician and a patient for use at the point of care. It can also be sent in an unformatted version as a PCS data service that feeds into an EMR or PHR. The PCS report facilitates collaboration because the physician and the patient could be viewing exactly the same information as a care manager and a specialist in another doctor's office, while the PCS data service is beneficial in reducing data entry requirements by pre-populating an EMR or PHR.

VI. Summary

In the quest to ultimately create a valuable EHR, there is pending legislation to mandate a PBHR. While we don't maintain that the payer-based health record is a complete electronic health record, it is the logical starting point because it is the only place that that large quantities of data exist in electronic form. The enhanced PBHR refines and validates much of the data and pushes it to the next level of utility.

MEDecision has piloted this solution at a major payer, which is sharing data with its key hospital, a level one trauma center. The solution has provided them with additional data at the point of care, which has been shown to improve the quality of care they can deliver and reduce costs by eliminating unnecessary services. Hospital physicians have commented that this is a "quantum leap" improvement in available information because the only data they previously had was that data that was located inside the hospital.

The benefits of the enhanced PBHR, which include more information, better decisions and better outcomes, extend to all parties and ultimately to the general population by improving healthcare and making it more affordable for all.

In short, the enhanced PBHR paves the way to the electronic health record and the next generation of healthcare in this country.